

CLAIMS:

1. An article which is resistant to hydrogen embrittlement having by weight:

0.25 to 0.35% of carbon

0.3 to 0.5% of silicon

0.8 to 1.5% of manganese

1.0 to 2.0% of molybdenum

1.5 to 3.5% of chromium

0.5 to 1.5% of nickel

0.5 to 2.5% of tungsten

0.15 to 0.30% of vanadium

and/or

0.05 to 0.10% of niobium

0.05 to 1.0% of copper

0.01 to 0.2% of aluminum

0.01 to 1.0% of cobalt

remainder iron including smelting-related impurities.

2. The article of claim 1 which contains - individually or in combination - 1.2 to 1.8% of molybdenum, 1.5 to 2.5% of chromium and 1.2 to 1.8% of tungsten.

3. The article of claim 1 wherein the ratio of the molybdenum and tungsten contents is 0.9 to 1.1.

4. The article of claim 2 wherein the ratio of the molybdenum and tungsten contents is 0.9 to 1.1.

5. The article of claim 1 treated by an austenitization treatment at 1150 to 1200°C, and followed by quenching to room temperature and tempering at 450 to 600°C.

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6. The article of claim 2 treated by an austenitization treatment at 1150 to 1200°C, and followed by quenching to room temperature and tempering at 450 to 600°C.

7. The article of claim 3 treated by an austenitization treatment at 1150 to 1200°C, and followed by quenching to room temperature and tempering at 450 to 600°C.

8. The article of claim 1 which has been coated electrolytically, by PVD or by CVD.

9. The article of claim 2 which has been coated electrolytically, by PVD or by CVD.

10. The article of claim 3 which has been coated electrolytically, by PVD or by CVD.

11. The article of claim 5 which has been coated electrolytically, by PVD or by CVD.

12. The article of claim 1 coated electrolytically by PVD or by CVD with intercalated hard-material particles.

13. The article of claim 2 coated electrolytically by PVD or by CVD with intercalated hard-material particles.

14. The article of claim 3 coated electrolytically by PVD or by CVD with intercalated hard-material particles.

15. The article of claim 5 coated electrolytically by PVD or by CVD with intercalated hard-material particles.

16. A sawblade made of a steel alloy of claim 1, coated at least in the region of the cutting teeth with an electrolytic, PVD or CVD layer containing hard-material particle.

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17. A sawblade made of a steel alloy of claim 2, coated at least in the region of the cutting teeth with an electrolytic, PVD or CVD layer containing hard-material particle.

18. A sawblade made of a steel alloy of claim 3, coated at least in the region of the cutting teeth with an electrolytic, PVD or CVD layer containing hard-material particle.

19. A sawblade made of a steel alloy of claim 5, coated at least in the region of the cutting teeth with an electrolytic, PVD or CVD layer containing hard-material particle.